

**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the above-captioned application.

**Listing of Claims:**

1.-292. (cancelled).

293. (previously presented) A programmable logic controller for controlling a lens forming apparatus, the lens forming apparatus comprising:

a front mold member having a casting face, a non-casting face and a front mold identification marking;

a back mold member having a casting face, a non-casting face and a back mold identification mark, the back mold member being spaced apart from the front mold member by a gasket during use, the gasket comprising a gasket identification marking, wherein the casting faces of the front mold member and the back mold member and an inner surface of the gasket at least partially define a mold cavity which defines a shape corresponding to an eyeglass lens prescription during use; and

a lens curing unit configured to direct activating light toward the mold members during use;

the controller comprising:

an input device for obtaining information from an user; and

an output device for transmitting information to the user;

wherein the controller is configured to determine the front mold identification marking, the back mold identification marking and the gasket identification marking in response to the eyeglass lens prescription being entered through the input device during use, and wherein the controller is configured to transmit via the output device the front mold identification marking, the back mold identification marking and the gasket identification marking during use, and wherein the controller is configured to control the operation of the post cure unit during use, the lens curing unit during use and adjust lens curing conditions in the lens curing unit based on the eyeglass prescription during use.

296. (previously presented) The controller of claim 293, wherein the output device comprises a display screen, and wherein the input device comprises scrolling buttons and a selection knob, and wherein the selection knob is configured to be movable in a first direction such that data on the display screen is altered during use, and wherein the selection knob is configured to be movable in a second direction to select the data during use.

297. (cancelled).

298. (previously presented) The controller of claim 293, wherein the apparatus further comprises a light sensor configured to measure the dose of light transmitted to the mold cavity, and wherein the light sensor is configured to communicate with the controller during use, and wherein the controller varies the intensity or duration of light such that a predetermined dose is transmitted to the mold cavity during use.

299. (previously presented) The controller of claim 293, wherein the lens curing unit comprises a first light source and a second light source, and wherein the controller is configured to individually control the first and second light sources during use.

300. (previously presented) The controller of claim 293, wherein the controller is configured to perform system diagnostic checks during use.

301. (previously presented) The controller of claim 293, wherein the controller is configured to notify the user when the system requires maintenance during use.

302. (previously presented) The controller of claim 293, wherein the controller is configured to transmit instructions to an operator during use.

303. (previously presented) The controller of claim 293, wherein the controller is configured during use to run a computer software program for determining the front mold identification marking, the back mold identification marking and the gasket identification marking during use, wherein the software program comprises a plurality of instructions configured to perform operations comprising:

collecting prescription information which defines the eyeglass prescription during use;  
and

analyzing the prescription information to determine during use the front mold identification marking, the back mold identification marking, and the gasket identification marking of the appropriate front mold, back mold and gasket for producing the eyeglass lens.

304. (previously presented) The controller of claim 303, wherein the prescription information comprises a sphere power, a cylinder power and a lens location, and wherein the prescription information is analyzed by correlating the sphere power, cylinder power and the lens location to an record in an information database during use.

305. (previously presented) The controller of claim 303, wherein the prescription information comprises a sphere power, a cylinder power, an add power, and a lens location and wherein the prescription information is analyzed during use by correlating the sphere power, the cylinder power, the add power, and the lens location to a record in an information database.

308. (previously presented) The controller of claim 303, wherein the output device is a display screen, and wherein the operations further comprise producing during use a visual display of the front mold identification number, the back mold identification number, and the gasket identification number on the output device subsequent to analyzing the prescription data.

309. (previously presented) The controller of claim 303, wherein the operations further comprise determining curing conditions for a lens based on the eyeglass prescription during use.

310. (previously presented) The controller of claim 303, wherein the operations further comprise determining curing conditions for a lens based on the eyeglass prescription during use, wherein the controller is configured to control the curing unit such that the curing conditions are produced during use.

311.-442. (cancelled).

443. (previously presented) The controller of claim 293, wherein the gasket comprises at least four discrete projections for spacing mold members of a mold set, and wherein the projections are arranged on an interior surface of the gasket.

444. (previously presented) The controller of claim 293, wherein the gasket comprises at least four discrete projections for spacing mold members of a mold set, and wherein the projections are arranged on an interior surface of the gasket and wherein the at least four discrete projections are evenly spaced around the interior surface of the gasket.

445. (previously presented) The controller of claim 293, wherein the gasket comprises at least four discrete projections for spacing mold members of a mold set, and wherein the projections are arranged on an interior surface of the gasket and wherein the at least four discrete projections are spaced at about 90 degree increments around the interior surface of the gasket.

446. (previously presented) The controller of claim 293, wherein the gasket is configured to engage a second mold set for forming a second lens of a second power.

447. (previously presented) The controller of claim 293, wherein the gasket comprises a fill port for receiving a lens forming composition while the gasket is fully engaged to a mold set.

448. (previously presented) The controller of claim 293, wherein the gasket comprises an interior surface, an exterior surface and a fill port for receiving a lens forming composition while the gasket is fully engaged to a mold set and wherein the fill port extends from the interior surface of the gasket to the exterior surface.

449. (previously presented) The controller of claim 293, wherein the lens forming apparatus further comprises a coating unit and wherein the controller is configured to simultaneously control operation of the coating unit and the lens curing unit during use.

450. (previously presented) A programmable logic controller for controlling a lens forming apparatus, the lens forming apparatus comprising:

a mold assembly comprising a first mold member and a second mold member, wherein at least one of the first and second mold members comprise an identification mark;

a lens curing unit configured to direct activating light toward the mold assembly during use; and

wherein the controller is configured to determine during use the identification marking of the first or second mold member based on a prescription for the eyeglass lens, and wherein the controller is configured to control the operation of the lens curing unit during use and adjust lens curing conditions in the lens curing unit based on the eyeglass prescription during use.

451. (previously presented) The controller of claim 450, wherein each of the first and second mold members have an identification mark.

452. (previously presented) The controller of claim 450, wherein the apparatus is configured to form non-photochromic lenses and photochromic lenses during use.

453. (previously presented) The controller of claim 450, wherein the apparatus is configured to form an aspheric single vision lens, a flat-top bifocal lens or a progressive multifocal lens during use.

454. (previously presented) The controller of claim 450, wherein the lens curing unit comprises a first light source configured to generate and direct activating light toward the first mold member during use, and wherein the lens curing unit further comprises a second light source configured to generate and direct activating light toward the second mold member during use.

455. (previously presented) The controller of claim 450, wherein the lens curing unit comprises:

a first activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a second activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a first filter disposed between the first light source and the first mold member; wherein first filter is configured to manipulate the intensity of the activating light emanating from the first activating light source during use; and

a second filter disposed between the second light source and the second mold member, wherein second filter is configured to manipulate the intensity of the activating light emanating from the second activating light source during use.

456. (previously presented) The controller of claim 450, wherein the lens curing unit comprises:

a first activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a second activating light source, wherein the second activating light source is configured to produce activating light directed toward a mold assembly during use;

a first filter disposed between the first light source and the first mold member; wherein first filter is configured to manipulate the intensity of the activating light emanating from the first activating light source during use;

a second filter disposed between the second light source and the second mold member, wherein second filter is configured to manipulate the intensity of the activating light emanating from the second activating light source during use; and

wherein the first and second filters are configured to thermally isolate the first and second activating light sources from the lens curing chamber during use.

457. (previously presented) The controller of claim 450, wherein the lens curing unit comprises:

a first activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a second activating light source, wherein the second activating light source is configured to produce activating light directed toward a mold assembly during use;

a first thermal barrier disposed between the first activating light source and the first mold member, and a second thermal barrier disposed between the second activating light source and the second mold member.

458. (previously presented) The controller of claim 450, wherein the lens curing unit comprises:

a first activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a second activating light source, wherein the second activating light source is configured to produce activating light directed toward a mold assembly during use; and

wherein the first and second light sources comprise fluorescent light sources configured to emit light at a wavelength of about 385 nanometers to about 490 nanometers during use.



459. (previously presented) The controller of claim 450, wherein the lens curing unit comprises a lens drawer for positioning the mold members within the lens curing unit, the lens drawer being configurable to be inserted within and removed from an irradiation chamber of the lens curing unit during use.

460. (previously presented) The controller of claim 450, wherein the lens curing unit comprises a heater, the heater configured to heat the interior of the lens curing unit to a temperature of up to about 250 °F during use.

461. (previously presented) The controller of claim 450, wherein the lens curing unit comprises a conductive heating apparatus, the conductive heating apparatus being adapted to conductively apply heat to a face of at least one of the mold members during use.

462. (cancelled).

463. (previously presented) The controller of claim 450, wherein the apparatus further comprises a light sensor configured to measure the dose of light transmitted to the mold cavity during use, and wherein the light sensor is configured to communicate with the controller, and wherein the controller varies the intensity or duration of light such that a predetermined dose is transmitted to the mold cavity during use.

464. (previously presented) The controller of claim 450, wherein the lens curing unit comprises a first light source and a second light source, and wherein the control unit is configured to individually control the first and second light sources during use.

465. (previously presented) The controller of claim 450, wherein the controller is configured to perform system diagnostic checks during use.

466. (previously presented) The controller of claim 450, wherein the controller is configured to notify a user when the system requires maintenance during use.

467. (previously presented) The controller of claim 450, wherein the controller is configured to transmit instructions to an operator during use.

468. (previously presented) The controller of claim 450, wherein the controller is configured to run a computer software program for determining during use the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

- collecting prescription information during use, which defines the eyeglass prescription;
- and analyzing the prescription information to determine identification marking for producing the eyeglass lens during use.

469. (previously presented) The controller of claim 450, wherein the controller is configured to run a computer software program for determining during use the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

- collecting prescription information during use, which defines the eyeglass prescription;
- and analyzing the prescription information to determine during use identification marking for producing the eyeglass lens, wherein the prescription information comprises a sphere power, a cylinder power and a lens location, and wherein the prescription information is analyzed by correlating the sphere power, cylinder power and the lens location to an record in an information database during use.

470. (previously presented) The controller of claim 450, wherein the controller is configured to run a computer software program for determining during use the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

collecting prescription information during use, which defines the eyeglass prescription; and analyzing the prescription information to determine identification marking for producing the eyeglass lens during use, and wherein the prescription information comprises a sphere power, a cylinder power, an add power, and a lens location and wherein the prescription information is analyzed by correlating the sphere power, the cylinder power, the add power, and the lens location to a record in an information database during use.

471. (previously presented) The controller of claim 450, wherein the controller is configured to run a computer software program for determining during use the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

collecting prescription information during use, which defines the eyeglass prescription; and analyzing the prescription information to determine identification marking for producing the eyeglass lens during use, and wherein the prescription information further comprises monomer type and lens type.

472. (previously presented) The controller of claim 450, wherein the controller is configured to run a computer software program for determining during use the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

collecting prescription information during use, which defines the eyeglass prescription; and analyzing the prescription information to determine identification marking for producing the eyeglass lens during use, and wherein the mold identification marking comprises an alphanumeric sequence.

473. (previously presented) The controller of claim 450, wherein the controller is configured to run a computer software program for determining during use the identification marking, and

wherein the software program comprises a plurality of instructions configured to perform operations comprising:

collecting prescription information during use, which defines the eyeglass prescription; and analyzing the prescription information to determine identification marking for producing the eyeglass lens during use, and wherein the operations further comprise determining curing conditions for a lens based on the eyeglass prescription during use.

474. (previously presented) The controller of claim 450, wherein the controller is configured to run a computer software program for determining during use, the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

collecting prescription information during use, which defines the eyeglass prescription; and analyzing the prescription information to determine identification marking for producing the eyeglass lens during use, and wherein the operations further comprise determining curing conditions for a lens based on the eyeglass prescription during use, wherein the controller is configured to control the curing unit such that the curing conditions are produced during use.

475. (new) The controller of claim 293, wherein adjusting lens curing conditions in the lens curing unit comprises determining a dose of light required to cure the lens forming composition, based on the ambient room temperature.

476. (new) The controller of claim 450, wherein adjusting lens curing conditions in the lens curing unit comprises determining a dose of light required to cure the lens forming composition, based on the ambient room temperature.